

CLAIMS

1. A process for producing a catalyst for use in producing a lower aliphatic carboxylic acid ester, said catalyst being used in reacting a lower olefin with a lower aliphatic carboxylic acid in a gas phase to produce a lower aliphatic carboxylic acid ester, which process comprises the following first and second steps:

First Step

a step of loading one or more heteropolyacid on a support to obtain a heteropolyacid supported catalyst; and

Second Step

a step of contacting the heteropolyacid supported catalyst obtained in the first step with a gas containing at least one member selected from the group consisting of water, a lower aliphatic carboxylic acid and a lower aliphatic alcohol to obtain a catalyst for use in producing a lower aliphatic carboxylic acid ester.

2. A process as claimed in claim 1, wherein the second step is performed in the reactor for use in the reaction of a lower olefin with a lower aliphatic carboxylic acid in a gas phase.

3. A process as claimed in claim 1 or 2, wherein the heteropolyacid is selected from the group consisting of tungstosilicic acid, tungstophosphoric acid, molybdophosphoric acid, molybdosilicic acid, vanadotungstosilicic acid, vanadotungstophosphoric acid, vanadomolybdophosphoric acid, vanadomolybdosilicic acid, molybdotungstosilicic acid and molybdotungstophosphoric acid.

4. A process as claimed in claim 1 or 2, wherein the second step is performed at a temperature of 80 to 300°C.

5. A process as claimed in claim 1 or 2, wherein the second step is performed under a pressure of 0 MPaG (gauge

pressure) to 3 MPaG (gauge pressure).

6. A process as claimed in claim 1 or 2, wherein the second step is performed at a gas hourly space velocity (GHSV) of 100 to 7,000 hr^{-1} .

5 7. A process as claimed in claim 1 or 2, wherein the gas containing at least one member selected from the group consisting of water, a lower aliphatic carboxylic acid and a lower aliphatic alcohol used in the second step is a mixed gas of water and acetic acid.